

Guidelines for the Control of a Suspected or Confirmed Outbreak of Viral Gastroenteritis (Norovirus) in an Assisted Living Facility or Nursing Home

The following is a summary of guidelines developed to help facilities control suspected or confirmed outbreaks of viral gastroenteritis. Such outbreaks are most often caused by norovirus.

PLEASE CONTACT YOUR LOCAL HEALTH DEPARTMENT FOR ASSISTANCE AS SOON AS AN OUTBREAK IS SUSPECTED.

Background

Symptoms of norovirus typically begin 12-48 hours after exposure and usually include nausea, vomiting, diarrhea, and stomach cramping. Sometimes, people also develop a low-grade fever, chills, headache, muscle aches, and/or a general sense of tiredness. The illness is usually brief, with symptoms lasting one to two days. A more prolonged course of illness may last four to six days in elderly persons or those who have been hospitalized. There is no cure and no vaccine for norovirus. Treatment is supportive and involves ensuring that ill persons are adequately hydrated.

Laboratory testing and confirmation can provide important information about the organism causing disease. However, the cause of an outbreak is likely to be due to norovirus when:

- Stools are negative for bacterial pathogens
- The average incubation period is 12-48 hours
- The average duration of illness is one to three days
- Vomiting occurs in at least 50% of cases

The virus is found in the vomit and stool of infected people. A person can become infected with norovirus by touching contaminated surfaces or objects and then touching his/her mouth before hand washing, by having direct contact with a person who is ill and then touching his/her mouth before hand washing, or by eating food or drinking liquids that have been contaminated by ill food handlers. Hand washing and appropriate environmental cleaning are *essential* to prevent the spread of this disease.

In general, an outbreak is defined as the presence of more sickness than would usually be expected in the facility, or in a particular unit, for that time of year. A basic threshold for a suspected norovirus outbreak might be three or more cases of illness (vomiting and/or diarrhea with no other apparent cause) among residents and/or staff within a 72-hour period.

Your facility is required to report any suspected outbreak to your local health department. The health department will provide assistance by helping identify potential sources of the outbreak and making recommendations to stop the spread of disease. Stool specimens may be collected and transported to the state laboratory for testing.

Prevention/Management

Norovirus is **highly contagious and very hardy** [can survive freezing and heating to 60°C (140°F)], so strict adherence to control measures is necessary. The preventive measures listed below should be continued for at least four days after the outbreak appears over because infected persons continue to shed the virus after they have recovered. Although peak viral shedding occurs two to five days after infection, the virus can be detected in an individual's stool for up to four weeks following infection. While viral shedding is occurring, the virus can be spread to others.

- 1) Isolate ill residents from others by keeping them in their rooms, including serving meals in their rooms while symptomatic and for at least 24 hours after symptoms resolve. Discontinue activities where ill and well residents would be together; this includes congregating in communal areas like TV rooms and snack break areas. Group activities should be kept to a minimum or postponed until the outbreak is over. Residents should not be moved from an affected to an unaffected unit.
 - Asymptomatic individuals, especially those with cognitive impairment or those who might not reliably report illness or tend to their hygiene, may also need to be confined to their rooms to control the spread of illness. In some situations, confinement of all individuals may be necessary if other control measures have not been or may not be effective.
- 2) Exclude any staff with vomiting and/or diarrhea from work. Staff who develop symptoms at work should tell their supervisors about the illness and go home immediately.
 - a) Those who do not have foodhandling or patient care duties may return to work after 24 hours have passed with no diarrhea and/or vomiting.
 - b) Those with foodhandling or patient care duties are recommended by VDH and CDC to refrain from preparing food for others or providing healthcare while ill and for at least two to three days after symptoms have resolved and, required by the Virginia Food Code to be excluded from work while ill and for at least 24 hours following cessation of diarrhea and/or vomiting and until at least 48 hours have passed since the employee became symptomatic.
 - c) For all, review and enforce hand hygiene and safe food handling practices upon return to work.
 - d) The health department may advise different exclusion criteria if evidence suggests the illness is caused by an agent other than norovirus.
- 3) Minimize the flow of staff between sick and well residents. Staff should be consistently assigned to work with either well residents **or** sick residents, but should not care for both groups. Staff working with ill and well residents can spread the virus from resident to resident.
- 4) Staff should wash their hands when entering and leaving *every* resident room. For norovirus, handwashing is strongly preferred. If soap and water are not available and hands are not visibly soiled, alcohol-based hand rubs/gels may be used ($\geq 70\%$ ethyl alcohol).
- 5) Staff should wear gloves and gowns when caring for ill residents or when touching potentially contaminated surfaces. Masks should be worn when caring for residents who are vomiting. Remove gloves, gowns, and masks (in that order) and wash hands when finished providing care to a resident before assisting another resident, including the roommate of an ill individual. Housekeeping staff should wear gloves and masks when cleaning contaminated or potentially contaminated surfaces or laundry.

6) Frequently disinfect all surfaces that are frequently touched. Restroom surfaces, such as faucet handles, soap dispensers, stall doors and latches, toilet seats and handles, and towel dispensers are heavily contaminated surfaces and require frequent disinfection.

- The recommended disinfectant is a *freshly made* chlorine bleach solution diluted in accordance with instructions for cleaning hard surfaces as printed on the bleach container. Since chlorine bleach may affect fabrics and other surfaces, spot test an area before applying to any visible surface.
- If chlorine bleach is not used in your facility, or for surfaces that could corrode or be damaged by bleach, other commercial products have been approved by the Environmental Protection Agency (EPA) to be effective for use against norovirus. For example, concentrated phenol solutions may be used (e.g., Lysol, Pinesol), but may require **2-4x** more concentration than the manufacturer's recommended concentration to kill norovirus. Peroxomonosulphate (e.g., Virkon-S) may also be effective. Glutaraldehyde (0.5%)-based agents (e.g., Metricide, Cidex, Sonacide, Sporidicin, Hospex, and Omnicide) may also be considered. Other effective cleaners may include accelerated hydrogen peroxide (e.g., Accel TB), and some quaternary ammonium products. **These chemicals can be dangerous. Follow all safety instructions** and mix at the manufacturers' recommended concentrations. A list of EPA-approved products is available at http://www.epa.gov/oppad001/list_g_norovirus.pdf.
- For contamination with fecal material, the cleaning process should include: 1) removing visible soil with detergent and water, and 2) disinfecting with bleach solution (a contact time of ten minutes may be necessary).

If the area is a food contact area, this disinfection procedure should be followed by a clear-water rinse, and a final wipe down with a sanitizing bleach solution (i.e., 200 ppm sodium hypochlorite) or other EPA-approved product.

- Vomit should be considered as potentially infectious material and should be **immediately** covered with a disposable cloth or paper towels. The cloth should be saturated with a disinfectant to reduce potential airborne contamination. Cleaning staff should use disposable face masks, gloves, and aprons when cleaning up after a vomiting incident. Paper toweling or other toweling used to clean-up liquid vomit should be immediately placed in a sealed trash bag and properly disposed. Follow the same cleaning procedures as for fecal contamination.
 - Heat disinfection (i.e., pasteurization) has been suggested for items that cannot be subjected to chemical disinfectants. A temperature equal to or greater than 60°C (140°F) should be used.
- 7) Cleaning procedures that might result in aerosolization of norovirus (e.g., dry vacuuming carpets, dry dusting, or buffing hard surface floors) should **not** be utilized. Cleaning with detergent and hot water, followed by disinfection with hypochlorite (if a bleach-resistant surface) or steam cleaning (5-minute contact time at a minimum temperature of 170°F) is preferred.
- 8) Contaminated linens and bed curtains should be carefully placed into laundry bags (to prevent generating aerosols) and washed separately in hot water for a complete wash cycle – ideally as a

half load for best dilution. Wear gloves (and apron or gown if soiled laundry will touch clothing) when handling soiled laundry.

- 9) Minimize air currents generated by open windows, fans, or air conditioning because they may disperse aerosols widely.
- 10) It may be prudent to discontinue new admissions and/or visitation to the facility until the outbreak is over. Any newly admitted resident should be assigned to an unaffected unit, or the least heavily affected unit, if possible. If visitation is allowed, visitors should go directly to the person they are visiting and not spend time with anyone else. Visitors should wash their hands upon entering and leaving the room. They should not visit if they are sick and should refrain from visiting until three days after their symptoms resolve.
- 11) If your facility plans to discharge a resident during a norovirus outbreak, your facility has the responsibility to notify the receiving facility that an outbreak is going on, even if that resident is not symptomatic. The receiving facility has the right to decline an admission during a known communicable disease outbreak.

INFECTION PREVENTION MEASURES: CHECK SHEET

HAVE YOU...?

- Informed all **staff, visitors, and residents** of the situation and what they need to do to protect themselves and others?
- Ensured **all staff with symptoms** are **excluded from work** for the appropriate amount of time?
- Allocated **dedicated staff** to care for ill residents, whenever possible?
- Provided all staff with **information and training** in infection control precautions?
- Ensured that all **residents** have their **hands washed** after going to the toilet, before meals, and after any episode of diarrhea or vomiting?
- Separated well residents** from ill residents, wherever possible, for at least 24 hours after resolution of symptoms?
- Avoided transferring** residents to other institutions while cases of gastrointestinal illness are occurring, or, if a transfer is necessary, ensured receiving institution has been **notified** of the outbreak?
- Restricted admissions**, whenever possible, of new residents until cases of gastrointestinal illness have resolved?
- Considered **posting signs** at appropriate locations throughout the facility?
- Asked **visitors who report any symptoms** to avoid visiting until 72 hours after symptoms cease?
- Ensured all **staff and visitors wash their hands** before and after all resident contact?
- Ensured **sufficient soap and/or alcohol-based hand rubs or gels**, and hand-drying facilities are available?
- Provided sufficient **gloves, gowns, aprons, masks, goggles, face shields** and ensured that they are easily accessible?
- Ensured **cleaning and other relevant staff** are aware of the correct **cleaning procedures** and the importance of hand washing?
- Ensured **catering staff** are aware of the precautions required in **food service** area and the importance of hand washing?
- Ensured all staff are aware of the precautions required when handling **soiled linen**?
- Ensured **laundry staff** are aware of the correct **laundering procedures** and the importance of hand washing?